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# Awareness about COVID-19: Health Literacy Level of LIS Students and Researchers of Universities in Punjab and Chandigarh

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## ABSTRACT

**Purpose**: This study aims to assess the health literacy level of LIS students and researchers about COVID-19. **Design/methodology:** The online survey method was used to conduct this study. A questionnaire was designed and used to collect data from the respondents. **Findings:** The findings of the study show that maximum number of the respondents are aware about the symptoms, spread of virus and preventive measures of COVID-19, understand the basic information and follow the basic instructions provided by medical practitioners. It is found that most of respondents believe that they are getting information from reliable resources and are capable of evaluating the information about COVID-19 but also a significant number of respondents are not sure if they are getting information from reliable resources or not. The Internet, television, social media, government websites, WHO and health websites are the most used resources for getting health information by the respondents. **Implications:** This study will help to know the awareness and health literacy level of budding LIS professionals i.e. students and researchers about COVID-19 because if the LIS professionals are themselves health literate, then only they can make their families and communities health literate. **Limitations of the study:** The scope of this study is limited to the BLIS and MLIS students and LIS researchers of Punjabi University, Patiala, Guru Nanak Dev University, Amritsar and Panjab University, Chandigarh. **Originality/value:** This study is based on the primary data collected from the LIS students and researchers to assess their health literacy level about COVID-19.

**Keywords:** COVID-19, Health literacy, Information resources, Library and information science

## INTRODUCTION

The Coronavirus outbreak was declared as a Public Health Emergency on 30th January 2020 by the World Health Organization (WHO) and was given the name "COVID-19". The first case of this disease was reported in Wuhan, China. This is an infectious disease which is caused by a newly discovered Coronavirus. It is a contagious disease which spreads while coming in contact with an infected person, mainly through droplets of saliva and nasal discharges of infected people to others. As of now prevention is the best cure for this disease. The only way to stop and slow down the transmission of this disease is to maintain social distancing and to be well informed about this virus, its symptoms, ways of transmission and preventive measures. According to WHO on August 16, 2020 there are 21,02,6758 cases of COVID-19 worldwide

and 755,786 deaths have been confirmed due to this disease. In India, as per the data on August 16, 2020 from the Ministry of Health and Family Welfare there are total 6, 77,444 active cases, 18, 62,258 cured cases and 49,980 deaths reported due to COVID-19 and these cases are increasing day by day. So, it is very important for every individual to be health literate about COVID-19 as health literacy is a key factor for good health and well-being.

**Health Literacy and COVID-19**

Health literacy is indispensable for everyone to seek health information from different resources and to utilize the services related with health. Health literacy determines the ability to use health information and services. According to the World Health Organization (WHO) health literacy is defined as "the cognitive and social skills which determines the motivation and ability of individuals to gain access to, understand and use information in ways which promote and maintain good health." Health literacy is very important for making right decisions about health in every situation. As the Coronavirus is spreading at a fast pace it is necessary that every individual have health awareness and should adopt the cognitive and social skills to get health information from different reliable resources and use this information to make good health decisions to protect them from this pandemic. Health literacy is very important to combat this type of global pandemics caused by communicable diseases. Also, the availability of false and misleading information about COVID-19 is a matter of concern which sometimes causes serious problems and panic in the public. This problem is so severe that the WHO launched the 'infodemic platform' to combat misinformation about COVID-19 and jointly with the United Kingdom government run a campaign for creating awareness about the risks of false and incorrect information about COVID-19 named "Stop the Spread." This campaign is promoted in other Asian, African, European, Middle East and Latin American countries too. Here lies the importance of health literacy as only a health literate person is able to judge and evaluate information about health. As we see many people do not follow the instructions and directions provided by medical practitioners and government and trust false information, as a result they do not follow the social distancing and other safety measures. This happens due to low levels of health literacy as they don't understand the value of reliable information and instructions for them and their near ones but a health literate person will use the information wisely. By knowing the harshness of the situation, a health literate person will follow the instructions and other safety measures responsibly. So, health literacy is an indispensable tool to tackle these kinds of pandemics.

Nutbeam in 2000 gave three levels of health literacy: Basic and Functional Health Literacy: having skills to read and write information to deal with everyday situations; Communicative and Interactive Health Literacy: having advance cognitive, literacy and social skills to deal everyday activities and derive meaning to new communication forms to apply new information to changing circumstances; and Critical Health Literacy: having more advance cognitive, social and literacy skills to analyse information and its use to control life situations. Taking these three levels of health literacy given by Nutbeam as a base, the present study is conducted to assess the health literacy level of Library and Information Science (LIS) students and researchers about COVID-19. As the LIS students and researchers are the future information providers to the public, it is very important that they should be health literate and have the skills to appraise or evaluate the reliability of health information, so that they can communicate reliable health information to the public which having diverse health information needs for combating these types of pandemics.

**REVIEW OF SELECT LITERATURE**

In this section, selected studies related to the present study are reviewed and presented in two parts: Health

Literacy and Role of Libraries in promoting Health Literacy.

**Health Literacy**

Ghaddar *et al.* (2012) examined the health literacy of adolescents with relationship to use of online health information resources. An online survey was conducted to collect data from high school students in South Texas. The results show that only 52% students had adequate health literacy and it is positively related with use of online health information resources and self efficacy. It is also found that the use of reliable health information resources like MedlinePlus increases the level of health literacy.

Heijmans *et al.* (2015) assessed the health literacy level of patients suffering with chronic diseases in Netherland. The Dutch functional, communicative and critical health literacy scale was used to conduct this study. It is found that they have good health literacy. The results show that lower education, income and higher age leads to lower health literacy. It is found that communicative and critical health literacy is more important in self management of chronic diseases than functional health literacy.

Kushalnagar *et al.* (2017) examined the relationship between critical health literacy and health information discussion among deaf students with the help of a questionnaire. It was found that 30% of deaf respondents always or often discussed health with their family and 41% of them always or often discussed health with their friends. It is found that age had a strong effect on critical health literacy while discussion with family and friends had a good impact on functional health literacy, also the discussion with friends moderately affected the critical health literacy. Having deaf parents did not affect the level of critical health literacy.

Sykes *et al.* (2017) evaluated the relationship between the critical health literacy and community development projects. The interviews, audios and documents were selected for collecting the data. Eight meetings named inquiries were organized and people from disadvantaged areas were selected to join these meetings. The results show that the community development programs had a positive impact on critical health literacy skills among the individuals and communities and it resulted into increased community influence over a number of health determinants but due to lack of initiatives in this area the potential of this concept could not be assessed. So, there is a need to organize this kind of community development programs for increasing the health literacy of the people.

Mousavi *et al.* (2018) conducted a study to know the health literacy among the librarians and use of various resources to achieve this in the Mazandaran Public Library Foundation. A survey-descriptive study was used to conduct this study. S-TOFHLA questionnaire was used to collect data. The findings of this study show that 85% of librarians had suitable health literacy. Doctors and audio-video media resources were found to be the most important resources to access health information by them. It is found that attention given towards health information resources will improve the health literacy. The functional, interactive and communicative health literacy related to food borne diseases among the urban poor in Accra, Ghana.

Gupta *et al.* (2018). The survey method with the help of a questionnaire was used to collect data. The results show that there is a significant relationship between the high level of health literacy and demographic variables. The levels of functional health literacy were lower among respondents but there was a significant positive relationship between the higher functional literacy and education. The male respondents had higher level of self rated health literacy than women. Respondents having senior school and tertiary education didn't need help while reading and completing the hospital documents. It was found that the interactive skills depend upon perception of friendly and unfriendliness

of medical staff on critical health literacy. Some respondents feel that it is necessary to think about information related to health and information provided by doctors and some had it from their personal life experiences such as from having food borne diseases to their family members, relatives. Some respondents were not able to think carefully about health information due to issues in personal life and busy work schedule. So, there is a significant relation between functional health literacy, education and socio-demographic variable.

Matsushita *et al.* (2018) assessed the relationship of communicative and critical health literacy with overall physical activity and other domains like work, travel and recreational physical activities among Japanese adults. Data was collected by an online survey. It was found from this study that the higher level of communicative and critical health literacy was significantly related with higher level of work, travel and recreational physical activities.

Sykes and Wills (2018) conducted a study to know the evidence-based intervention for building critical health literacy by a community project and the impact of this project on the level of critical health literacy of the participants. This program results into building informal and participatory learning related to critical health literacy, independent and supportive assessment of the problem, familiarity with health services and systems, appraising information and social support. This evaluation also shows some minor improvements in competencies of critical health literacy like appraise health information critically and its application in their lives and ability to ask questions to health professionals. But there was no change on the participant's ability to understand the various health determinants and involvement in political and social change.

Ekoko (2020) explored the level of health information literacy among the rural women in Delta State, Nigeria by assessing the level of functional, communicative and critical health literacy competencies. The survey method was used to collect data. It is found that most of the studied women have low functional literacy due to inability of reading and writing. The level of communicative literacy was also lower among these women but the good levels of critical literacy were observed among these women. They mostly consult relatives and traditional healers for their health issues. It was concluded that the rural women of Delta State, Nigeria were not health literate.

**Role of Libraries in promoting Health Literacy**

Noh and Oh (2011) to analyse the role of public libraries in Korea in providing consumer health information services. The results show that about 70% public libraries in the country were equipped with health related journals and books. But only 30% public libraries provide health reference services and only 5% had consumer health information websites. Also 82.1% public libraries did not provide educational programmes related to this. There is a need to improve health information services by improving librarians' expertise and skills.

Luo and Park (2013) conducted a nationwide survey to know the types of reference services provided by public libraries to fulfill health information needs of the public and challenges faced by public libraries while assisting health information to the public. Probability sampling and systematic random sampling method was used to select samples for this study. The results show that the users ask various health questions about medical/health conditions, human body, disease, fitness and nutrition. The librarians face various challenges while providing health information like lack of knowledge of appropriate health information resources and difficulty in the interpretation of users' questions. The library staff wishes to receive training to develop skills for providing health information to the public.

Dalmer (2014) conducted a study to know what kind of strategies was enacted by Canadian health libraries

for promoting health literacy. For this study data was collected from various databases, journal articles, reports of library associations, government publications, newspaper articles and dissertations. The results show that libraries can play an active role in promotion of health literacy of their users and for this, librarians have to adopt various skills to improve their health literacy, so that they can act as a key player in the promotion of health literacy.

Arndt (2016) on various aspects related to health literacy and libraries, like the role of public and academic libraries in the promotion of health literacy and collaboration between the libraries in the promotion of health literacy. The findings of this study show that librarians can play a significant role in this direction by providing education, entertainment programs and workshops on health literacy by improving their abilities and expertise. To promote health literacy there is a need to enhance the collaboration between different libraries, universities, health associations, organizations and government and non government agencies.

Barr-Walker (2016) assessed the role of libraries in promoting health literacy programmes and initiatives by reviewing literature in this direction. Four databases named Library Literature, Library, Information Science and Technology Abstracts (LISTA) and PubMed were searched by using various keywords. The findings of this study shows that the libraries are providing various programmes like organize workshops, classes, fairs, conferences, training on the use of databases and providing translation of health information and collaborate with local senior centres and with other libraries for promoting health literacy to various populations like older adults, patients, medical students, the general public, underserved populations and among health care professionals.

Ali and Bhatti 2020) defined various information resources used by library professionals to spread public health awareness during COVID-19 pandemic. They highlighted various information sources that can spread health awareness in public by maintaining social distancing. These sources are Mobile Apps, artificial intelligence based chat bots, social media platforms, video-lectures and other electronic resources. To combat this situation the library staff can cooperate with other health workers and medical staff for disseminating information about COVID-19.

The review of select literature shows that the socio-demographic variables are the strongest determinants of health literacy of a person. Education and discussion with family and friends had a good impact on functional health literacy. The communicative skills of patients depend upon the friendly and unfriendly behaviour of health professionals while the age of the person has a positive impact on critical health literacy. The community health development programs and workshops help in increasing the critical health literacy skills of the community. During the COVID-19 pandemic the libraries by using various health information resources like mobile apps, chatbots and social media platforms are spreading the awareness of COVID-19 among the public. Libraries are also providing various programmes and services for increasing the health literacy of their communities. But it was found in the majority of studies that library staff lack the skills of providing health information and there is a need to provide training to them for improving their health literacy skills so that they are able to provide reliable health information to the users. During this pandemic, the false information on health became a major global issue. As LIS students and researchers are the future information providers to the public and can play a lead role in providing reliable and accurate information about health to their communities, it is very important that library professionals should have proper health literacy skills to find, access, understand, evaluate and use health information for good health and well-being of the public. All these facts motivated me to conduct the present study to assess the level of

health literacy of LIS students and researchers about COVID-19.

### Objectives of the Study

- To know the level of basic health literacy of LIS students and researchers about COVID-19.
- To know the level of communicative/interactive health literacy of LIS students and researchers about COVID-19 by assessing the communicative/ interactive skills among them.
- To know the level of critical health literacy of LIS students and researchers by assessing the ability of evaluation and implementation of information about COVID-19 in their lives**.**
- To know the different information resources used by them for getting information about COVID-19.

### Scope of the Study

The scope of this study is limited to the students of Bachelor of Library and Information Science (BLIS), Master of Library and information Science (MLIS) and researchers in the Departments of Library and Information Science of Punjabi University, Patiala (PUP), Guru Nanak Dev University, Amritsar (GNDU), and Panjab University, Chandigarh (PUC).

## RESEARCH METHOD USED

The present study is based on the data collected through an online survey conducted with the help of Google Forms App. A questionnaire was designed for the collection of data from the BLIS students, MLIS students and researchers of three universities under study. At present, the total number of BLIS, MLIS students and researchers in PUP are 35, 28 and 33, in GNDU 10, 09 and 6, and in PUC 49, 29 and 28 respectively. Out of a total of 227 LIS students and researchers in these 3 universities only 110 respondents responded to this survey and provided data. Total number of responses received from PUP, GNDU and PUC are 61 (61.61%), 22 (22.22%) and 16 (16.16%) respectively. So, the response rate was 48.45%. 11 responses were found invalid, so 99 valid responses were used for this study. The highest response was received from PUP and least response was received from PUC. After the collection of data, it was analyzed and presented with the help of tables and column charts.

## DATA ANALYSIS AND DISCUSSION

### General Information

In this section the general information of the respondents is presented:

Table 1 shows that 29.50% respondents from PUP were male and 70.49% were female. In GNDU 31.81% respondents were male and 68.18% were female. In PUC 31.25% respondents were male and 68.75% were female. So, it is found that the number of female respondents (69.69%) were more than male respondents (30.30%) from all 3 universities under study.

Table 2 shows that in PUP, 40.98% respondents were BLIS students, 42.62% were MLIS students and

**Table 1: Gender-wise Distribution of Respondents**

| Name of the University | Male (%) | Female (%) |
|---|---|---|
| PUP | 18 (29.50%) | 43 (70.49%) |
| GNDU | 7 (31.81%) | 15 (68.18%) |
| PUC | 5 (31.5%) | 11 (68.75%) |
| **Total (99)** | **30 (30.30%)** | **69 (69.69%)** |

**Table 2: Course-wise Distribution of Respondents**

| Name of the University | BLIS (%) | MLIS (%) | Researchers (%) |
|---|---|---|---|
| PUP | 25 (40.98%) | 26 (42.62%) | 10 (16.39%) |
| GNDU | 7 (31.81%) | 9 (40.90%) | 6 (27.27%) |
| PUC | 2 (12.5%) | 12 (75%) | 2 (12.5%) |
| **Total (99)** | **34 (34.34%)** | **47 (47.47%)** | **18 (18.18%)** |

16.39% were researchers. In GNDU, 31.81% respondents were BLIS students, 40.90% were MLIS students and 27.27% were researchers. In PUC 12.5% were BLIS students, 75% were MLIS students and 12.5% were researchers. So, it is found that most of the respondents were MLIS students (47.47%) followed by BLIS students (34.34%) and least number of respondents were researchers (18.18%).

**Functional/Basic Health Literacy**

In this section the basic level of health literacy of LIS students and researchers about COVID-19 is assessed by using the parameters like basic knowledge about COVID-19, awareness about symptoms, spread of virus and preventive measures, understanding of basic information and following of basic instructions given by health practitioners.

Table 3 shows that in all the three universities, all the respondents (100%) were having basic knowledge about COVID-19. So, it is good to know that all the respondents have basic knowledge about COVID-19.

Figure 1 shows that in PUP, 96.72% respondents were aware and 3.27% of the respondents were not aware about the symptoms of COVID-19. In GNDU and PUC all the respondents (100%) were aware about the symptoms of COVID-19. So, it is found that except 3.27% respondents from PUP all the respondents were aware about the symptoms of COVID-19.

**Table 3: Basic Knowledge about COVID-19**

| Name of the University | Yes (%) | No (%) |
|---|---|---|
| PUP | 61 (100%) | 0 (0%) |
| GNDU | 22 (100%) | 0 (0%) |
| PUC | 16 (100%) | 0 (0%) |

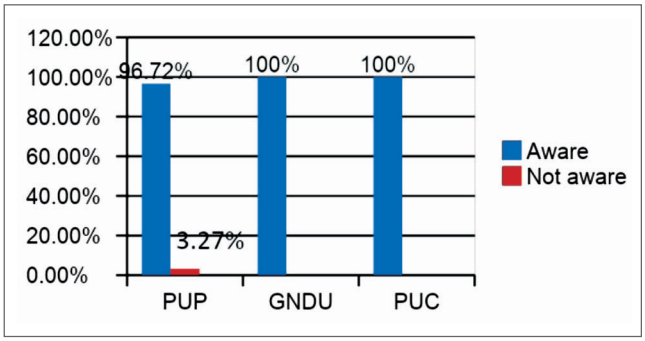


**Figure 1: Awareness about Symptoms of COVID-19**

Figure 2 shows that in PUP, 98.36% of the respondents were aware and 1.63% of the respondents were not aware about how this virus spread. In GNDU and PUC all the respondents (100%) were aware. So, it is found that except very few respondents from PUP (1.63%), all the respondents were aware that how this virus spread from one person to another.

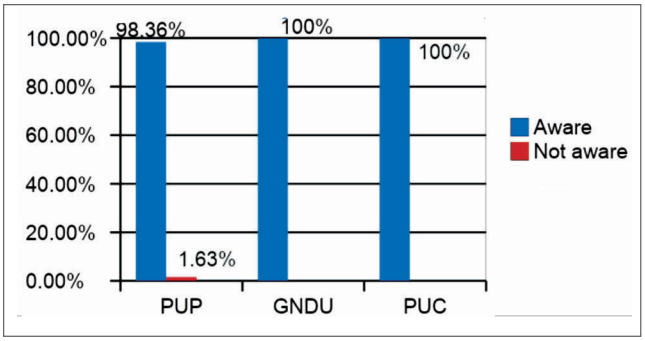


**Figure 2: Awareness about the Spread of Virus**

Figure 3 shows that in PUP, 91.80% of the respondents were aware and 8.19 % were not aware about the preventive measures. In GNDU, 90.90% of the respondents were aware and 9.09% were not aware about the preventive measures and in PUC all the respondents (100%) were aware about the preventive

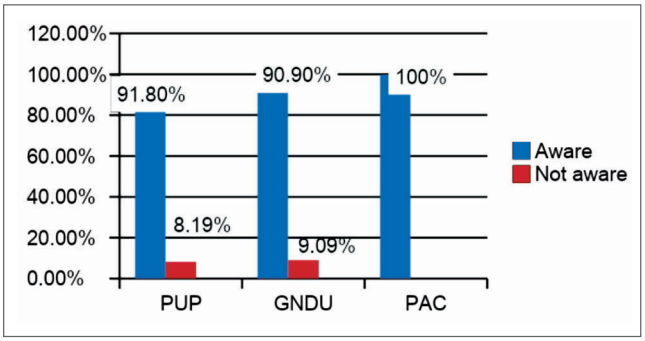


**Figure 3: Awareness about Preventive Measures of the COVID-19**

measures of COVID-19. So, it is found that majority of respondents were aware about the preventive measures of COVID-19.

Figure 4 shows that in PUP 98.36% respondents, in GNDU 95.45% respondents and in PUC all the respondents (100%) believe that they can understand the basic information about COVID-19. So, it is found that except some respondents from PUP (1.63%) and GNDU (4.54%), all the respondents believe that they can understand the basic information provided by medical practitioners and government health agencies about COVID-19.

Figure 5 shows that in PUP 98.36% of the respondents, in GNDU and PUC 100% respondents followed the basic instructions provided by the medical practitioners. So, it is found that except few respondents (1.63%) from PUP all the respondents followed the basic instructions provided by the health practitioners.

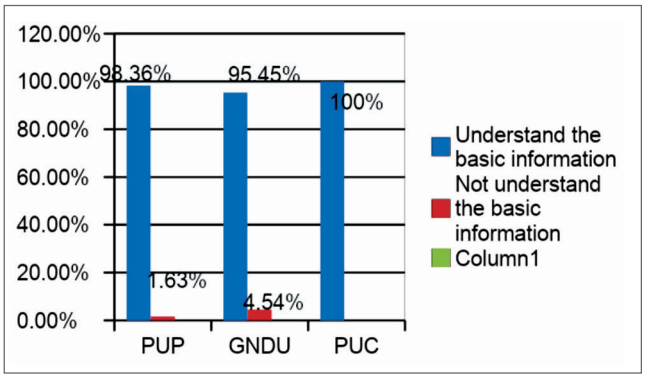


**Figure 4: Understanding of Basic Information about COVID-19 provided by Medical Practitioners and Government Health Agencies**

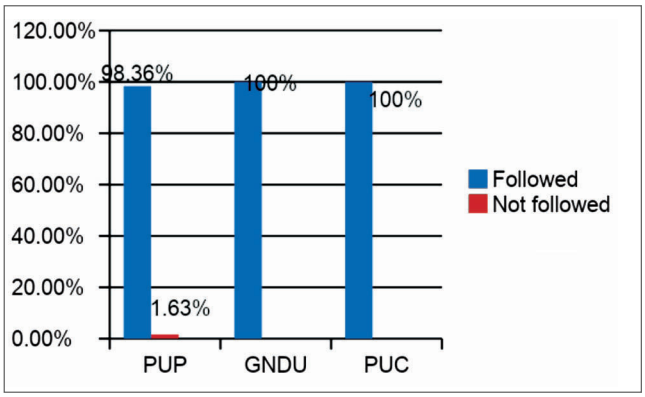


**Figure 5: Following of Basic Instructions given by Medical Practitioners about COVID-19**

**Communicative/Interactive Health Literacy**

In this section the communicative/ interactive health literacy skills of the respondents for exchanging information about COVID-19 are assessed by using the parameters like awareness of false information, getting information from reliable resources and exchanging information about COVID-19 with others.

Figure 6 shows that in PUP 86.88% of the respondents were aware and 13.11% were not aware about the false information. In GNDU all the respondents (100%) were aware about the false information and in PUC 93.75% of the respondents were aware and 6.25% were not aware about the false information available about COVID-19. So, it is found that the majority of respondents believe that they are aware about the false information available about COVID-19.

Figure 7 shows that 75% respondents from PUC, 61% from PUP and 54.54% from GNDU believe that they were getting information about COVID-19 from reliable resources but40.90% respondents from GNDU, 34.42% from PUP and 12.50% from PUC were not

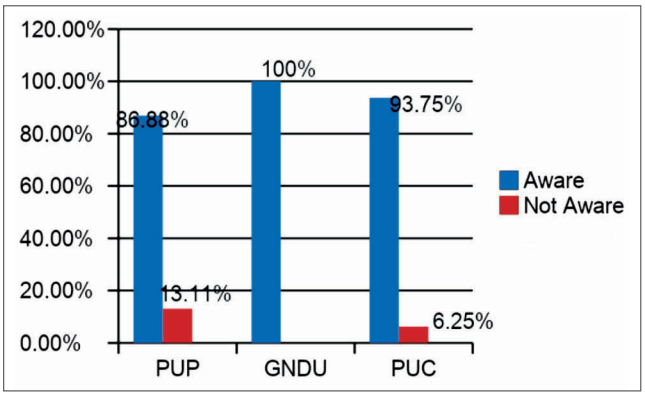


**Figure 6: Awareness of False Information available about COVID-19**

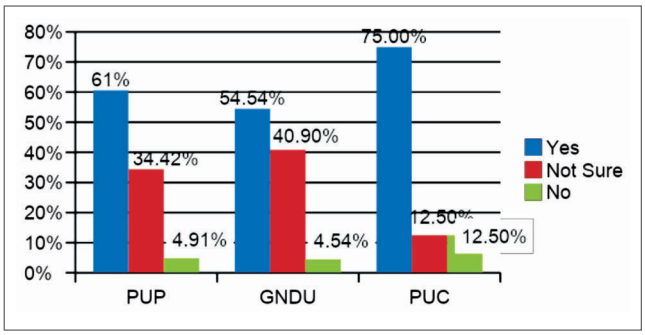


**Figure 7: Getting Information about COVID-19 from Reliable Resources**

sure if they are getting information about COVID-19 from reliable resources or not. Also, 12.50% respondents from PUC, 4.91% from PUP and 4.54% respondents from GNDU believe that they were not getting information about COVID-19 from reliable resources. So, it is found that although the majority of respondents believe that they are getting information about COVID-19 from reliable resources but the matter of concern is that there was also significant number of the respondents who were either not sure that they are getting information from reliable resources or believe that they are not getting information about COVID-19 from reliable resources.

Figure 8 shows that all the respondents (100%) from PUP and PUC, and 95.45% in GNDU were exchanging their opinions, thoughts and other information about COVID-19 with family, friends, relatives and others. So, it is found that except 4.54% respondents from GNDU, majority of respondents were exchanging their opinions, thoughts and other information about COVID-19 with family, friends, relatives and others.

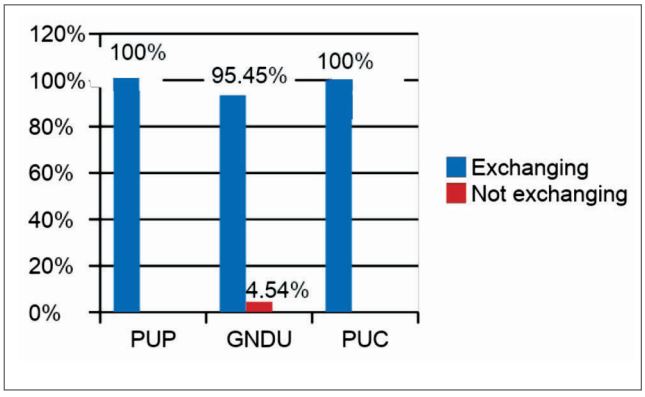


**Figure 8: Exchanging Information about COVID-19 with Others**

## Critical Health Literacy

In this section, the critical health literacy of the respondents was assessed by using the parameters like evaluation and use of information about COVID-19 in their lives.

Figure 9 shows that 90.91% respondents from GNDU, 81.25% from PUC and 57.37% from PUP believe that they were capable of evaluating the information. 37.70% respondents from PUP, 18.75% from PUC and 9.09% from GNDU were not sure that they are capable of evaluating the information and 4.91% of the respondents from PUP believe that they were not capable of evaluating the information available on COVID-19. So, it is found that the majority of respondents from all the three universities believe that they are capable of evaluating the information about COVID-19 but on the other hand there are also a significant number of respondents who are not sure if they are capable of evaluating the information available on COVID-19 or not.

Figure 10 shows that 100% of the respondents from GNDU and PUC, and 98.36% of the respondents from

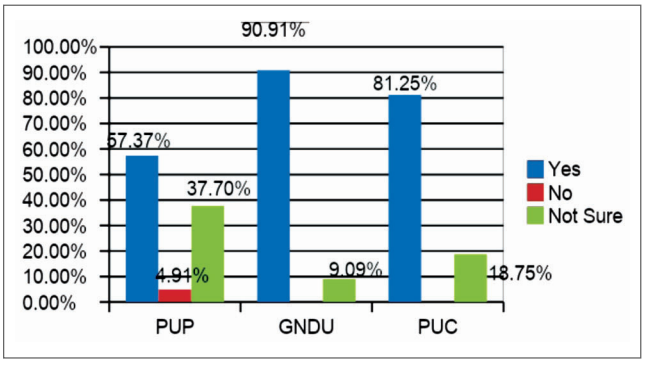


**Figure 9: Capability to Evaluate Information available on COVID-19**

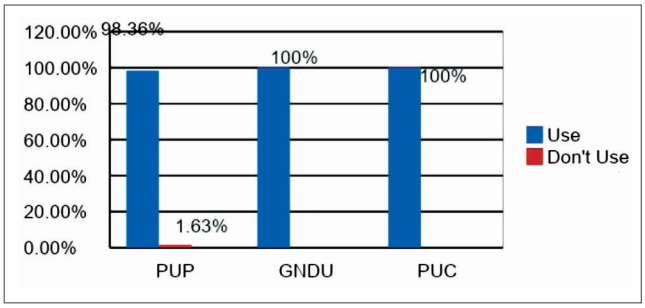


**Figure 10: Use of Available Information about COVID-19 in Daily Life**

PUP were using the available information about COVID-19 in their daily routines. So, it is found that except 1.63% respondents from PUP, all the respondents use the available information about COVID-19 in their daily life routines.

### Health Information Resources

In this section, an attempt was made to know the use and reliability of various health information resources for getting information about COVID-19.

Figure 11 shows that 91.80% respondents from PUP, 81.81% from GNDU and 75% respondents from PUC were willing to get information about COVID-19 from different Health Information Resources but 25% of the respondent from PUC, 18.18% from GNDU and 8.19% from PUP were not willing to get information about COVID-19 from these resources. So, it is found that the majority of respondents from all three

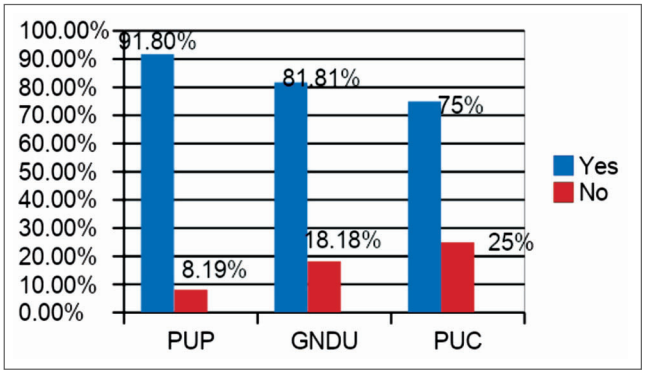


**Figure 11: Willingness to get Information about COVID-19 from Different Health Information Resources**

universities were willing to get information about COVID-19.

Table 4 shows that in PUP majority of the respondents use the internet (63.93%), television (60.65%) and social media (49.8%) to get information about COVID-19. In GNDU also, most of the respondents use the internet (77.27%), television (68.18%) and social media (63.63%) to get information about COVID-19. In PUC most of the respondents use government websites (93.75%), WHO (75%) and health websites (68.75%) to get information about COVID-19. So, it is found that the internet, television, social media, government websites, WHO and health websites are the mostly used resources for getting health information by the respondents.

Table 5 shows that in PUP, respondents opined that the most reliable resource to get information about COVID-19 is WHO (29.50%), in GNDU government websites and WHO (27.27%) and in PUC government websites (75%) are opined to

be the most reliable resources to get information about COVID-19. So, it is found that majority of the

**Table 4: Use of Different Health Information Resources for Getting Information about COVID-19**

| Health Information Resources | PUP (%) | GNDU (%) | PUC (%) |
|---|---|---|---|
| Friends/Relatives | 39.34 | 45.45 | 18.75 |
| The Internet | 63.93 | 77.27 | 43.75 |
| Health Websites | 40.97 | 27.27 | 68.75 |
| Government Websites | 36.06 | 54.54 | 93.75 |
| World Health Organization (WHO) | 40.98 | 59.09 | 75 |
| Social Media (FB, Instagram, YouTube etc.) | 49.8 | 63.63 | 25 |
| Television | 60.65 | 68.18 | 45.45 |
| Radio | 11.47 | 27.27 | 11.11 |
| Newspapers | 39.34 | 31.81 | 43.75 |
| Hospitals/Doctors | 18.03 | 27.27 | 12.5 |
| Government Campaigns | 14.75 | 27.27 | 18.75 |

**Table 5: Reliable Resources of Information about COVID-19**

| Health Resources | PUP (%) | GNDU (%) | PUC (%) |
|---|---|---|---|
| Friends/Relatives | 1.63 | 0 | 0 |
| The Internet | 16.39 | 18.18 | 12.5 |
| Health Websites | 6.55 | 0 | 12.5 |
| Government Websites | 16.39 | 27.27 | 75 |
| World Health Organization (WHO) | 29.50 | 27.27 | 56.25 |
| Social Media (FB, Instagram, YouTube etc.) | 8.19 | 0 | 0 |
| Television | 18.03 | 9.09 | 6.25 |
| Radio | 0 | 0 | 0 |
| Newspapers | 0 | 4.54 | 18.75 |
| Hospitals/Doctors | 1.63 | 22.72 | 6.25 |
| Government Campaigns | 0 | 9.09 | 0 |
| News Channels | 8.19 | 4.54 | 0 |

**Table 6: Unreliable Resources of Information about COVID-19**

| Health Resources | PUP (%) | GNDU (%) | PUC (%) |
|---|---|---|---|
| Friends/relatives | 8.15 | 18.18 | 6.25 |
| The Internet | 4.91 | 9.09 | 6.25 |
| Health websites | 0 | 0 | 0 |
| Government websites | 3.27 | 0 | 0 |
| World health organization | 4.91 | 0 | 0 |
| Social media (FB, Instagram, YouTube etc.) | 50.81 | 68.18 | 87.5 |
| Television | 3.27 | 0 | 0 |
| Radio | 1.63 | 0 | 0 |
| Newspapers | 6.55 | 0 | 0 |
| Hospitals/doctors | 0 | 0 | 0 |
| Government campaigns | 0 | 0 | 0 |
| News channels | 6.55 | 4.54 | 12.5 |

respondents believe that WHO and government websites are the most reliable resources to get information about COVID-19.

Respondents were also asked about the unreliable sources of information. Table 6 shows that in PUP, GNDU and PUC the respondents believe that social media and friends/relatives (50.81% and 8.15%, 68.18% and 18.18% and 87.5% and 6.25% respectively) are the most unreliable resource to get information about COVID-19. So, it is found that the majority of the respondents believe that social media and friends/relatives are the most unreliable resources to get information about COVID-19.

## FINDINGS

- The number of female respondents (69.69%) was more than male respondents (30.30%) from all 3 universities under study.
- Most of the respondents were MLIS students (47.47%) followed by BLIS students (34.34%) and the least number of respondents was researchers (18.18%).
- All the respondents (100%) were having basic knowledge about COVID-19.
- Except 3.27% respondents from PUP, all the respondents were aware about the symptoms of COVID-19.
- All the respondents (100%) from PUC, 91.80% from PUP and 90.90% respondents from GNDU were aware about the preventive measures of COVID-19.
- Except some respondents from PUP (1.63%) and GNDU (4.54%), all the respondents believe that they can understand the basic information provided by medical practitioners and government health agencies about COVID-19.
- Except few respondents (1.63%) from PUP, all the respondents follow the basic instructions provided by the health practitioners.
- All the respondents (100%) in GNDU, 93.75% in PUC and 86.88% respondents in PUP were aware about the false information available around COVID-19.

- Majority of respondents believe that they are getting information about COVID-19 from reliable resources but the matter of concern is that there was also a significant number of respondents who were not sure that they were getting information from reliable resources.
- Except 4.54% respondents from GNDU, all the respondents were sharing their opinions, thoughts and other information about COVID-19 with family, friends, relatives and others.
- Majority of respondents from all the three universities believe that they are capable of evaluating the information about COVID-19 but on the other hand there are also a significant number of respondents who believe that they are not capable of evaluating the information available on COVID-19.
- Except 1.63% respondents from PUP, all the respondents use the available information about COVID-19 in their daily life routines.
- 91.80% respondents from PUP, 81.81% from GNDU and 75% from PUC were willing to get information about COVID-19 from different health information resources.
- The internet, television, social media, government websites, WHO and health websites are the mostly used resources for getting health information by the respondents.
- WHO and government websites are found to be the most reliable resources and Social media and friends/relatives were found to be the most unreliable resources to get information about COVID-19.

## CONCLUSION AND SUGGESTIONS

A person with good health enjoys a happy life. Health literacy is very important to get the right information about health and making wise decisions out of it. Due to the existing Coronavirus pandemic, it is necessary for every individual to stay informed and adopt all the preventive ways to stay safe from this disease. As the LIS students and researchers are the future librarians and information providers, it is indispensable for them to learn skills for the searching and evaluation of information. In this internet era, a lot of information is available on the internet and it is difficult for the information users to get the right information. But on the other hand, a library is the most trustable and the only place where information comes from several filters and only reliable information is provided to the users as we have seen many libraries are providing their services during this pandemic by different means to raise awareness among the public about COVID-19. In this study, the basic, communicative and critical health literacy of the budding LIS students and researchers of three universities of Punjab were assessed. It is found that the majority of LIS students and researchers have good basic, communicative and critical health literacy about COVID-19. But the problem lies in the evaluation of information and getting information from reliable information resources. So, it is very essential for them to learn the skills for the evaluation of information, not only to combat this pandemic but also for their profession.

The availability of false and misleading information about COVID-19 is so severe that it sometimes causes serious problems. During this pandemic as the issue of false information emerged as a serious concern, the international agencies like United Nations (UN) and WHO pondered seriously on fake news and are working to combat this major issue. The WHO interactive chatbot on Rakuten Viber helps people to get information about COVID-19 in multiple languages and also the EPI-WIN platform provides access to accurate, timely information from reliable resources to everyone. The mythbusters of WHO are working with many search and media companies (Google, Twitter, and YouTube etc.) to combat the false information. As

the people are selling online cure and there are cyberattack on hospitals critical information systems by criminals, the chief of UN Antonio Guterres tweeted that "Our common enemy is COVID-19, but our enemy is also an infodemic of misinformation." This all shows how serious this matter is. As the Director General of WHO, Dr Tedros Adhanom Ghebreyesus said "Information is powerful and can help save lives during this pandemic" so, it is very necessary for the universities and the LIS departments to organize special lectures, seminars and workshops related to health literacy to teach students the skills for the evaluation of information and information resources for getting right information relating to different aspects of health to deal with diverse health information needs, because if the LIS professionals are themselves health literate, then only they can make their families and communities health literate.

## REFERENCES


Ali MY and Bhatti R, 2020. COVID-19 (Coronavirus) Pandemic: Information Sources Channels for the Public Health Awareness. *Asia Pacific Journal of Public Health*. 32(4), 168-169. Retrieved from https://doi.org/10.1177/1010539520927261

Arndt TS, 2016. Health literacy: a natural role for librarians. *Reference Services Review*, 44(2): 81–84. Retrieved from https://doi.org/10.1108/rsr-04-2016-0026

Barr-Walker J, 2016. Health literacy and libraries: a literature review. *Reference Services Review*, 44(2): 191–205. Retrieved from https://doi.org/10.1108/rsr-02-2016-0005

Countering misinformation about COVID-19. (2020). Retrieved from www.who.int website:https://www.who.int/news-room/feature-stories/detail/countering-misinformation-about-covid-19

Dalmer N, 2014. Health Literacy Promotion: Contemporary Conceptualizations and Current Implementations in Canadian Health Librarianship. *Journal of the Canadian Health Libraries Association*, 34(1): 12–16. Retrieved from https://doi.org/10.5596/c13-004

Ekoko O, 2020. An Assessment of Health Information Literacy among Rural Women in Delta State, Nigeria. *Library Philosophy and Practice (e-Journal)*. Retrieved from https://digitalcommons.unl.edu/libphilprac/3533

Ghaddar SF, Valerio MA, Garcia CM and Hansen L, 2012. Adolescent Health Literacy: The Importance of Credible Sources for Online Health Information. *Journal of School Health*, 82(1): 28–36. Retrieved from https://doi.org/10.1111/j.1746-1561.2011.00664.x

Gupta S, Tutu RA, Boateng J, Busingye JD and Elavarthi S, 2018. Self-reported functional, communicative, and critical health literacy on foodborne diseases in Accra, Ghana. *Tropical Medicine and Health*, 46(1),52-65. https://doi.org/10.1186/s41182-018-0097-6

Heijmans M, Waverijn G, Rademakers J, van der Vaart R and Rijken M, 2015. Functional, communicative and critical health literacy of chronic disease patients and their importance for self-management. *Patient Education and Counseling*, 98(1): 41–48. Retrieved from https://doi.org/10.1016/j.pec.2014.10.006

Kushalnagar P, Ryan C, Smith S and Kushalnagar R, 2017. Critical health literacy in American deaf college students. *Health Promotion International*, 33(5): 827–833. Retrieved from https://doi.org/10.1093/heapro/dax022

Luo L and Park VT, 2013. Preparing public librarians for consumer health information service: A nationwide study. *Library & Information Science Research*, 35(4): 310–317. https://doi.org/10.1016/j.lisr.2013.06.002

Matsushita M, Harada K and Arao T, 2018. Relation between communicative and critical health literacy and physical activity in Japanese adults: a cross-sectional study. *The Journal of Physical Fitness and Sports Medicine*, 7(1): 75–80. Retrieved from https://doi.org/10.7600/jpfsm.7.75

MoHFW| Home. (1995). Retrieved August 16, 2020, from www.mohfw.gov.in website: http://mohfw.gov.in

Mousavi CA and Riahi A, 2018. Evaluation of health literacy and resources to achieve them among librarians of Mazandaran public library. The *Journal of Qazvin University of Medical Sciences*, 21(6): 73–64. Retrieved from https://doi.org/10.29252/qums.21.6.73

Noh YH and Oh SH, 2011. An Analysis of the Librarians' Perception of Providing CHI Services in Public Libraries. *Journal of the Korean BIBLIA Society for Library and Information Science*, 22(3): 25–55. Retrieved from https://doi.org/10.14699/kbiblia.2011.22.3.025

Nutbeam D, 2000. Health literacy as a public health goal: a challenge for contemporary health education and communication strategies into the 21st century. *Health Promotion International*, 15(3): 259–267. Retrieved from https://doi.org/10.1093/heapro/15.3.259

Risk Communication: EPI-WIN. (2020). Retrieved June 9, 2020, from www.who.int website: https://www.who.int/teams/risk-communication

Sykes S and Wills J, 2018. Challenges and opportunities in building critical health literacy. *Global Health Promotion*, 25(4): 48–56. Retrieved from https://doi.org/10.1177/1757975918789352

Sykes S, Wills J and Popple K, 2017. The role of community development in building critical health literacy. *Community Development Journal*, 53(4): 751–767. Retrieved from https://doi.org/10.1093/cdj/bsx019

UN tackles 'infodemic' of misinformation and cybercrime in COVID-19 crisis | United Nations. (2020). Retrieved June 10, 2020, from United Nations website: https://www.un.org/en/un-coronavirus-communications-team/un-tackling-%E2%80%98infodemic%E2%80%99-misinformation-and-cybercrimcovid-19

WHO | Track 2: Health literacy and health behaviour. (2010). Retrieved August 16, 2020, from Who.Int. website: https://doi.org//entity/healthpromotion/conferences/7gchp/track2/en/index.html

WHO and Rakuten Viber fight COVID-19 misinformation with interactive chatbot (n.d.). Retrieved June 9, 2020, from www.who.int website: https://www.who.int/news-room/feature-stories/detail/who-and-rakuten-viber-fight-covid-19-misinformation-with-interactive-chatbot

WHO Coronavirus Disease (COVID-19) Dashboard. (n.d.). Retrieved August 16, 2020, from covid19.who.int website: https://covid19.who.int/https://covid19.who.int/https://covid19.who.int/https://covid19.who.int/https://covid19.who.int/

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